Chapter IV

Site Summaries for Facilities on the NPL (by State)

IV. SITE SUMMARIES FOR FACILITIES ON THE NPL (BY STATE)

This section of the Annual Report to Congress provides a detailed description of progress made at each of the 21 U.S. Department of Energy (DOE) facilities currently on the National Priorities List (NPL). The information provided includes each facility's NPL status, background summary information, environmental conditions, and funding information. Each of the applicable Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(e)(5) information requirements is also addressed. Discussion of the Hanford - 1100 Area is retained in this section although this portion of the Hanford Site has been deleted from the NPL. The geographic location of each site is identified in Figure I-1.

LABORATORY FOR ENERGY-RELATED HEALTH RESEARCH

Davis, Yolo County, California

Office: Oakland Operations Office

Size: 15 acres (0.02 square mile)

NPL Status: Placed on NPL on May 31, 1994.

Mission: The Laboratory for Energy-Related Health Research (LEHR) facility consists of several DOE-owned buildings located on property leased from the University of California, Davis (UCD). LEHR was established in 1958 by the Atomic Energy Commission to conduct research of health effects on dogs exposed to bone-seeking radionuclides. Full-scale experimental use of radioactive materials, including strontium-90 and radium-226, began at the LEHR site in 1960. DOE is considered a potentially responsible party for LEHR.

Overview of Environmental Conditions: The contaminants are primarily strontium-90 and radium-226 in buildings and tanks and organics, radionuclides, and trace metals in soil and groundwater. Tritium has also been detected. Between the 1940s and 1967, approximately 6 acres of the site were independently operated by UCD as a sanitary landfill and low-level radioactive waste disposal area. Routine laboratory and university refuse, including chemical waste, was disposed of at this site.

CERCLA/RCRA Remediation Funding in FY 97: $3,535,000

Progress in Reaching Interagency Agreement

In 1988, DOE terminated the research program and in 1989 signed a Memorandum of Agreement (MOA) with UCD to begin cleanup of the site. This MOA was amended in 1993 to limit DOE involvement in areas that were the University's responsibility to characterization activities only. DOE, Environmental Protection Agency (EPA) Region IX, and the State of California are currently negotiating a Federal Facility Agreement (FFA) for cleanup of LEHR. In June 1997, DOE and University of California, Davis, signed a MOA delineating each party's responsibilities for cleanup. Under this agreement DOE is responsible for four areas: 1) Southwest Trenches; 2) Radium/ Strontium (Ra/Sr) Treatment System Areas; 3) Western Dog Pans; and 4) Domestic Septic System Areas.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental management activities at LEHR total $5.16 million of appropriated funds for FY 98, and $3.0 million for FY 99, according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

An Interagency Agreement (IAG) in the form of a FFA is currently being negotiated and is expected to be complete during FY 99.

Progress in Conducting Remedial Investigations/Feasibility Studies

Completed risk assessment for the areas for which DOE is responsible. The DOE continues to conduct CERCLA investigations and response actions on soil and groundwater.

Progress in Conducting Remedial Actions

In FY 97, no remedial actions were conducted, but plans are to initiate removal actions in FY 98.

LAWRENCE LIVERMORE NATIONAL LABORATORY - LIVERMORE SITE

Livermore, Alameda County, California

Office: Oakland Operations Office

Size: 811 acres (1.3 square miles)

NPL Status: Placed on the NPL on July 22, 1987.

Mission: The Lawrence Livermore National Laboratory (LLNL) was established in 1952 to function as a national scientific and technical resource for the nuclear weapons program and other programs of national interest. LLNL performs research, development, and testing associated with the nuclear design aspects of all phases of the nuclear weapon life cycle. The Laboratory, consisting of two noncontiguous parcels (Livermore Site and Site 300), is also involved in the following programs: inertial fusion, magnetic fusion, biomedical and environmental research, isotope separation, and applied energy technology and other research-related activities.

Overview of Environmental Conditions: Contamination of groundwater and soil with tetrachloroethylene, perchloroethylene, and trichloroethylene.

CERCLA/RCRA Remediation Funding in FY 97: $12,692,000

Progress in Reaching Interagency Agreement

The DOE entered into an FFA with EPA Region IX and the State of California for cleanup of the LLNL-Livermore Site. This FFA was executed on November 1, 1988 and became effective in February 1989. Significant emphasis was placed on the renegotiation of FFA-enforceable milestone deliverables in FY 95. In July 1997, EPA and the state agencies approved a revised schedule that updated the prioritized activities to continue plume control on the western and southern perimeters where there is offsite contamination. A treatability study and groundwater facility were added for Trailer 5475 where there are volatile organic compounds and tritium contamination. The Treatment Facility 518 vapor extraction system was also included in the schedule. Six Portable Treatment Units were started instead of permanent facilities, resulting in cost savings and more efficient mass removal of contaminants.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration to support the FFA milestones at the LLNL-Livermore Site total $11.6 million of appropriated funding for FY 98 and $14.8 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

An IAG in the form of an FFA became effective in 1989; as a result, a technical assistance group is in place. This group continues to support a community working group to review post Record of Decision

(ROD) documents and to provide input into the recent renegotiations and priorities of the site remediation efforts. A revised FFA Schedule of Deliverables was negotiated with the regulators and shared with the public in July 1997.

Progress in Conducting Remedial Investigations/Feasibility Studies

The Draft Final Feasibility Study (FS) was submitted to the state and EPA in December 1990 and the proposed Remedial Action Plan was submitted in October 1991, in preparation for the November 1991 public hearing on the proposed plan for onsite remediation activities. A responsiveness summary for the public comments and final ROD was approved by DOE in June 1992.

Progress in Conducting Remedial Actions

The ROD for the LLNL-Livermore Site was approved by DOE, EPA, and the State of California in June 1992. The ROD called for a cleanup of soil and groundwater using seven treatment facilities and 24 initial extraction locations. Subsequent negotiation with the regulators resulted in streamlining operations and reporting requirements, replacing pipelines, repairing facilities with portable treatment facilities, and increasing the total number of wells and treatment facilities. Currently, seven treatment facilities are in operation. Due to continuing remediation, complete hydraulic capture of the western offsite plume has been established with a dramatic decrease in offsite contaminant concentrations. Additionally, a successful demonstration of the Dynamic Underground Stripping Technology was performed at the Gasoline Spill Area, which resulted in the removal of approximately 10 thousand gallons of fuel hydrocarbons. In FY 96, operations began in the Building 518 Vapor Treatment Facility, Portable Treatment Units (PTUs) were stationed in the TFG-1 and F Areas, and the Treatment Facility C North Pipeline began operation.

In FY 97, six PTUs were stationed at the following areas: Treatment Facility C-SE, TFD-W, TFE-E, TFG-1 and TF-406. Mass removal rates of contaminants exceeded site projection as presented in the Remedial Design Reports.

LAWRENCE LIVERMORE NATIONAL LABORATORY - SITE 300

Tracy, San Joaquin County, California

Office: Oakland Operations Office

Size: 7,000 acres (10.1 square miles)

NPL Status: Placed on the NPL on August 30, 1990.

Mission: The LLNL was established in 1952 to function as a national scientific and technical resource for the nuclear weapons program and other programs of national interest. LLNL performs research, development, and testing associated with the nuclear design aspects of all phases of the nuclear weapon life cycle. The Laboratory consists of two noncontiguous parcels, the Livermore Site and Site 300. Site 300 is used for high explosives testing.

Overview of Environmental Conditions: Contamination of onsite groundwater and soil with tritium and trichloroethylene and high explosive compounds.

CERCLA/RCRA Remediation Funding in FY 97: $12,692,000

Progress in Reaching Interagency Agreement

An integrated (CERCLA/RCRA) FFA was negotiated and signed between DOE, EPA Region IX, the California EPA's Department of Toxic Substance Control, and the Central Valley Regional Water Quality Control Board on June 29, 1992. In February 1994, a revised Appendix A (schedule of deliverables) to the FFA was approved by EPA.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration to support the milestones in the FFA at the LLNL-Site 300 total $10.1 million of appropriated funding for FY 98 and $7.5 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

All stakeholders and interested parties have been involved in the development of the FFA and subsequent revisions.

Progress in Conducting Remedial Investigations/Feasibility Studies

Under the terms of the FFA and at the request of the regulatory agencies, the Site 300 Site Wide Remedial Investigation (SWRI) Report was prepared. The final SWRI Report was submitted to the regulators in March 1994. The General Services Area (GSA) Operable Unit (OU) FS was completed in October 1995, the Building 834 OU Proposed Plan (PP) was completed in January 1995, and the Pit 6 OU FS

Engineering Evaluation/Cost Analysis (EE/CA) was completed in November 1994. A Site 300 Wide ROD is planned for FY 2001.

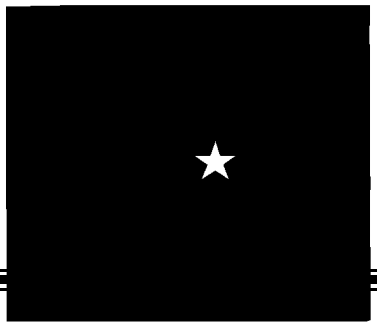
DOE, LLNL, and regulatory agency personnel have worked together to "re-engineer" the CERCLA process to expedite cleanup at portions of LLNL-Site 300 that present potential risks to human health and the environment. The areas of highest priority are the GSA, Building 834, and Building 832 Canyon. GSA and Building 834 were going through the standard CERCLA process of FS, PP, Public Meeting, and ROD. At the GSA OU, two interim groundwater treatment facilities continued operation, and a final PP and draft ROD were completed. At the Building 834 OU, an interim groundwater/vapor treatment facility continued operation, and a Title I Design for the Surface Water Drainage Project was completed. Building 832 Canyon was in the subsurface investigation phase, and it was anticipated that the appropriate CERCLA path would be chosen on completion of the investigation.

Progress in Conducting Remedial Actions

The Interim Groundwater Facilities at the Eastern and Central GSA have continued to operate, and the Interim Soil Vapor Extraction Facility at Building 834 was restarted. At GSA, the offsite plume has been significantly pulled back and offsite contamination has been reduced. A removal action to cap Pit 6 was initiated in FY 97.

Progress in Conducting Removal and Interim Actions at NPL Sites

Three interim groundwater/vapor treatment facilities continued operations. Initiated removal action at Pit 6. Submitted Engineering Evaluation/Cost Analysis Report for Building 815 Operable Unit 4.



ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Golden, Jefferson County, Colorado

Office: Rocky Flats Operations Office

Size: 6,550 acres (10.2 square miles)

NPL Status: Placed on the NPL on October 4, 1989.

Mission: The mission of the Rocky Flats Environmental Technology Site (RFETS), formerly the Rocky Flats Plant, is to manage waste and materials, and to clean up and convert the site for beneficial use in a manner that is environmentally safe and socially responsible, physically secure, and cost-effective.

Overview of Environmental Conditions: Onsite contamination of soil, groundwater, and surface water by chemical and radioactive materials used at the facility. Offsite soil contamination also has been identified.

Total Site Funding in FY 97: $487,385,000

Progress in Reaching Interagency Agreement

On July 19, 1996, DOE, EPA Region VIII, and the Colorado Department of Public Health and Environment (CDPHE) signed the Rocky Flats Cleanup Agreement. This document superseded the IAG among DOE, EPA Region VIII, and the State of Colorado executed on January 22, 1991 that replaced the July 31, 1986 Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation, and Liability Act Compliance Agreement executed by the same parties. The Rocky Flats Cleanup Agreement is a legal binding agreement among DOE, EPA Region VIII, and CDPHE to accomplish the required cleanup of radioactive and other hazardous substance contamination at RFETS in a safe, effective, and efficient manner.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

In FY 98, funding for RFETS was under the Defense Facilities Closure Project. The total appropriated funding for RFETS in FY 98 was $632.1 million, of which $28.3 million was associated with traditional environmental restoration activities. Total funding for RFETS in FY 99 is $625.2 million, according to the request in the President's Budget, of which $27.0 million is environmental restoration.

Public Comments Regarding Interagency Agreements

Discussions began in FY 93 between DOE and the regulatory agencies regarding negotiation of the new Rocky Flats Cleanup Agreement. The public was kept abreast of this activity, and a preliminary draft of the agreement was provided for informal comment. On March 14, 1996, the draft of the new cleanup agreement was released for public comment. More

than 100 individuals and organizations submitted written comments, which were carefully reviewed and considered during the preparation of the final agreement. Almost 40 people presented oral statements at three public hearings. A responsiveness summary was prepared.

Progress in Conducting Remedial Investigations/Feasibility Studies

Initial site characterization efforts at RFETS began in July 1986 under the RCRA/CERCLA Compliance Agreement and continued under the IAG executed on January 22, 1991. A comprehensive list of all known and suspected hazardous, radioactive, and mixed waste sources at the site has been compiled, including descriptions of all known release information for 178 individual hazardous substance sites. These sites originally were categorized for further environmental investigation and remediation into 16 OUs based on cleanup priorities, waste type, geographic location, and public input. Since that time, characterization has been completed and no-action RODs have been approved by DOE, EPA, and the CDPHE for four Operable Units (OUs 3, 11, 15, and 16). Additionally, the ROD for OU 1 has been approved.

Eight of the remaining OUs had been consolidated to form two OUs that benefit from coordinating the regulatory jurisdictional boundaries with the OU consolidation boundaries, thus reducing administrative and process requirements. These consolidated OUs are known as the Industrial Area (former OUs 4, 8, 9, 12, 13, 14, and part of 10) and the Buffer Zone (OU 2 and the remainder of OU 10). Separate RODs still had to be completed for OUs 5, 6 and 7.

The 881 Hillside (OU 1) Proposed Plan was submitted for public comment in May 1996. A final Correction Action Decision/ROD (CAD/ROD) was signed by Rocky Flats Field Office and transmitted to the regulators in September 1996. The final CAD/ROD for OU 1 was approved in March 1997.

Under the Rocky Flats Cleanup Agreement, no Corrective Measures Study/Feasibility Study documents will be prepared. Instead, documents such as Proposed Action Memoranda or Interim Measures/Interim Remedial Actions (IM/IRA) will be used to describe cleanup plans for one or a group of individual hazardous substance sites. These documents will be subject to public comment before approval.

The final draft and final OU 2 Remedial Investigation (RI) Reports were delivered to the regulatory agencies in May and September 1995, respectively. The OU 2 FS began in FY 95 but has been superseded by the new regulatory approach described above. In lieu of the FS, two proposed action memoranda were initiated in FY 96, with one proposed action memorandum (PAM) and one IM/IRA document completed in FY 97 and one PAM was completed in FY 98. OU 2 is now part of the Buffer Zone OU.

In OU 3, Offsite Areas, the final RI Report was completed and submitted to the regulators in June 1996. This assessment concludes that the risk from offsite contamination is below regulatory concern, and no remedial action is necessary. A proposed plan was submitted for public comment in August 1996. A no-action CAD/ROD was approved in June 1997.

OU 4, Solar Evaporation Ponds, is now part of the Industrial Area OU.

The Phase I and Phase II RI field work for OU 5 was combined so only one RI Report was required, the final of which was delivered to the regulatory agencies in April 1996. Two individual hazardous substance sites from OU 5 were transferred to the Industrial Area OU, and a no-action ROD is being considered. A proposed plan was submitted to the regulators in FY 97.

RI field work for OU 6 has been completed, and the RI Report was submitted in March 1996. Results indicate that the majority of individual hazardous substance sites in OU 6 do not require cleanup. Two

individual hazardous substance sites were transferred to the Industrial Area OU. (Final RFI/RI approval and draft OU 6 Proposed Plan will be accomplished in FY 99).

The two phases of OU 7 were combined with regulatory agency approval. This, along with use of a presumptive remedy to cap the present landfill, deleted 10 IAG milestones from this sub-project. Design of a passive leachate collection system for the OU 7 present landfill was completed. OU 7 field work was completed in FY 95. An IM/IRA decision document was completed in June 1996. Leachate collection began in April 1996, after completion of the Proposed Action Memorandum, and continued through FY 97.

Instead of continuing with studies in the Industrial Area, an IM/IRA has been implemented. This involves sampling of soil, air, groundwater, and surface water. A report was provided to the regulators in March 1996 and FY 97.

The following public involvement activities were completed:

- Public comment periods were held on various documents as required by CERCLA, such as a PAM (Trench 1) and an IM/IRA (Mound Plume) decision document.

- Monthly coordination meetings were held with EPA and CDPHE, as well as others as needed.

- All required documents were placed in RFETS public reading rooms and in five other repositories.

- Tours, presentations, and briefings on various topics were presented to members of the public, including the Rocky Flats Citizens Advisory Board, cities of Westminster and Broomfield, and the Rocky Flats Local Impacts Initiative.

- A total of 547 site visits were organized and conducted. The FY 97 tours included 163 visits by assessment and review teams, 12 congressional visits, 33 by the Defense Nuclear Facilities Safety Board (DNFSB), 71 tours for Headquarter's personnel, 69 foreign national visits, 38 tours for the general public, and 62 media interviews and tours, as well as others. Also, a site tour was provided for members of the Colorado Water Quality Control Commission.

Progress in Conducting Remedial Actions

After public comments and regulatory agency design approval, an IRA for OU 1 (a French Drain groundwater collection system and Building 891 treatment facility) was constructed and placed into operation in May 1992. The OU 1 IRA treatment facility collected and treated more than four million gallons of potentially contaminated groundwater through FY 96. Sampling has verified that contamination levels of the water being collected by the OU 1 IRA from the Building 881 footing drain are within acceptable limits, and authorization was granted by the regulatory agencies in 1994 to cease pumping this water to the French Drain. This source accounted for 85 to 95 percent of the water treated by the OU 1 IRA. Several small radioactive "hot spots" were removed in September 1994.

The Final CAD/ROD of OU 1 identified only one Individual Hazardous Substance Site (IHSS) 119.1 as a potential source of contamination requiring cleanup. The CAD/ROD called for the contamination source in the subsurface soil at IHSS 119.1 to be excavated, treated using thermal desorption, and returned to the ground. Additional sampling performed as part of CAD/ROD implementation showed that a contamination source does not exist; therefore, excavation is not necessary and in FY 99, the CAD/ROD will be amended to reflect this new information. OU 1 will then be closed out with no further remedial action.

An IRA for OU 2, which collects, treats, and releases potentially contaminated surface water, was completed and placed into operation in April 1992. The OU 2 IRA treatment facility has collected and treated more than 24 million gallons of potentially contaminated surface water. Sampling has verified that the contamination level of the water being collected from two of the three surface water sources by the OU 2 IRA, which account for about 90 percent of the surface water collected, is within acceptable limits. Authorization to cease collection and treatment of water from these sources was granted by the regulatory agencies in 1994 for all but one location. The OU 1 and OU 2 water treatment plants were combined in FY 95 and are now used to treat all site groundwater.

The Ryan's Pit removal action near IHSS 109 was completed in FY 95. Approximately 200 cubic yards of contaminated soil were excavated. In FY 96, these soils were thermally desorbed and returned to the trench.

The Mound Site, IHSS 113, was remediated in FY 97. Thermal desorption was used to treat 724.5 cubic yards of soil contaminated with volatile organic compounds.

During FY 97, RFETS completed dismantling three substantial steel structures that were built on slabs, demolishing four trailer facilities, and disposing of ten other trailer facilities through property transfer to other agencies or sale as surplus property. A total of 35 individual trailers left Rocky Flats either through property transfer or demolition. A total reduction in space under roof of 48,952 sq. ft. occurred in FY 97. The steel structures were Buildings 980, 968, and 965, which were demolished to their slabs. The steel superstructure and skin were removed and shipped either for recycling as low level radiation waste or a scrap metal. The total area under roof for these three buildings was 24,688 sq. ft.

The removal of trailers from Rocky Flats involved demolition of T690A (16 trailers), T690B (five trailers), T690E (2) and T371G (2). Demolition debris was disposed as landfill at a private facility in Colorado. The other nine trailers were transferred to other federal agencies or sold. The total square footage of trailers demolished or removed was 24,264 sq. ft.

The final draft of the Pond Water Management IM/IRA was completed and submitted to CDPHE and EPA on November 23, 1993. The draft was required to be developed under the IAG by the regulatory agencies in 1992, even though there is no imminent hazard to public health or the environment from water on the plant site. The document went to dispute under the IAG; the parties met on April 15, 1994 and came to a resolution on dispute issues. The DOE has not agreed with the use of CERCLA in lieu of the Clean Water Act to regulate surface waters; therefore, as part of the resolution, language addressing the designation of the ponds as "waters of the U.S." and preservation of DOE's rights to appeal this issue was included. A new pond operations plan, which superseded the Pond Water IM/IRA, has been reviewed with the regulators and local communities. Revision 2 of the Pond Operations Plan was submitted for review in September 1996.

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY

Idaho Falls, Bonneville County, Idaho

Office: Idaho Operations Office

Size: 569,600 acres (890 square miles)

NPL Status: Placed on the NPL on November 21, 1989.

Mission: The National Reactor Testing Station was established in 1949 by the U.S. Atomic Energy Commission as an area to build, test, and operate various nuclear reactors, fuel processing plants, and support facilities with maximum safety and isolation. The site was renamed the Idaho National Engineering Laboratory (INEL) in 1974 to reflect the broad scope of engineering activities now conducted at the site. In 1997 it was renamed the Idaho National Engineering and Environmental Laboratory (INEEL) to include the expanded mission of environmental research and development and cleanup. Prior to its establishment, the site was used as a World War II gunnery range for the U.S. Navy and U.S. Army Air Corps.

Overview of Environmental Conditions: Onsite groundwater and soil contamination from both known and potential sources resulting from past disposal practices. Contaminants of concern include chromium, volatile organic compounds (VOCs), carbon tetrachloride, and radionuclides.

CERCLA/RCRA Remediation Funding in FY 97: $97,561,000

Progress in Reaching Interagency Agreement

The INEEL Federal Facility Agreement/Consent Order (FFA/CO) and Action Plan between DOE, EPA Region X, and the State of Idaho was executed on December 9, 1991. The FFA/CO supersedes the RCRA 3008(h) Consent Order and Compliance Agreement (COCA) and covers all CERCLA response requirements as well as RCRA corrective action requirements. All parties agreed to initiate the FFA/CO Action Plan under the COCA in September 1991 while the FFA/CO was being finalized. The FFA/CO also includes Argonne National Laboratory (ANL) - West and the Naval Reactors Facility (NRF), which are located at INEEL.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration under the IAG Action Plan at the INEEL total $80.9 million of appropriated funding for FY 98 and $71.6 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

Public attention was focused on INEEL's FFA/CO when the Governor of Idaho was negotiating a settlement agreement with the Federal government over the shipment of naval spent fuel to the INEEL. One of the provisions of the "Settlement Agreement" is that INEEL's Environmental Restoration Program, as stated in the FFA/CO Action Plan, will be implemented. Additionally, when DOE-Idaho solicited public comments on the draft INEEL Environmental Management Ten-Year Plan (now the draft INEEL 2006 Plan), citizens had two principal concerns: 1) the Ten-Year Plan (draft INEEL 2006 Plan) be reconciled to the FFA/CO without weakening the FFA/CO; and 2) the FFA/CO continue to receive funding necessary to

comply with required cleanup actions that resulted from agency decisions following public comment periods on cleanup plans.

Progress in Conducting Remedial Investigations/Feasibility Studies

INEEL

Major documents submitted to EPA and the State of Idaho during FY 97 were:

INEEL

- WAG 1
  - OU 1-10 Draft RI/BRA, Draft Comprehensive RI/FS, Draft Proposed Plan.
  - OU 1-07B Test Area North (TAN) Groundwater Draft Bioremediation and Natural Attenuation Treatability Study, Draft Technology Evaluation Work Plan, Draft In-Situ Bioremediation Implementation Plan, Draft Revised RD/RA Scope of Work (SOW), TAN V-Tank Draft Treatability Study Work Plan.

- WAG 2
  - OU 2-13 Comprehensive RI/FS Report, Draft Record of Decision.

- WAG 3
  - OU 3-13 Draft Comprehensive RI/FS, Draft Phase II Comprehensive Facility Closure Evaluation, INEEL-Wide Soil Strategy Addendum, Radionuclide-Contaminated Soil Removal Action Memorandum.

- WAG 4
  - OU 4-12 CFA Landfill I, II and III Draft Final RA Report.
  - OU 4-13 Comprehensive RI/FS SOW and Work Plan.
  - Contaminated Soils Removal Action Summary Report.
  - Miscellaneous Sites Non-Time Critical Removal Action (NTCRA) Engineering Evaluation/Cost Analysis (EE/CA) and Action Memorandum

- WAG 5
  - OU 5-05 SL-1 and the Boiling Water Reactor Experiment (BORAX-1) Buried Reactor Cleanup Remedial Action Report.
  - OU 5-12 Comprehensive RI/FS SOW and Work Plan.

- WAG 7
  - OU 7-08 Organic Contaminated Vadose Zone (OCVZ) Draft Phase I Remedial Action Report.
  - OU 7-13/14 Comprehensive Revised RI/FS SOW.
  - OU 7-10 (Pit 9) Revision 2 RD/RA SOW, Contingency RD/RA SOW.

- WAG 8
  - Completion of NRF draft final comprehensive RI/FS (OU 8-08).

- WAG 10

- OU 10-04 Final Comprehensive RI/FS SOW, Ecological Field Sampling Plan (FSP), Liquid Chemical Contaminate Disposal Area (LCCDA) and Organic Moderated Reactor Experiment (OMRE) FSP, NTCRA EE/CA.

ANL-West

The RI/FS Work Plan for ANL-West was completed in FY 97.

The following are documents that were developed and submitted to EPA and the State of Idaho during FY 97 for ANL-West, plus associated activities:

- Final RI/FS Work Plan (OU 9-04); and
- Final RI/FS Work Plan SOW (OU 9-04).

Progress in Conducting Remedial Actions

No Further Action determinations were approved for 23 potential release sites following the guidance outlined in the FFA/CO. No additional NFAs for ANL-West in FY 97.

INEEL

The following activities were accomplished through FY 97 at the INEEL.

Assessment (from Year-End)

- 14 of 20 RODs complete.
- 154 of 169 Track 1 scoping investigations complete.
- 35 of 38 Track 2 scoping investigations complete.
- Completed Draft RI/BRA, Draft RI/FS and Draft Proposed Plan for Test Area North.
- Submitted Draft Explanation of Significant Difference (ESD) for OU 1-07B ROD.
- Finalized Comprehensive RI/FS and submitted Draft ROD for Test Reactor Area Comprehensive RI/FS.
- Submitted Draft Comprehensive RI/FS for Idaho Chemical Processing Plant (ICPP) Comprehensive RI/FS.
- Submitted RI/FS Work Plan for Central Facilities Area Comprehensive RI/FS.
- Finalized Comprehensive RI/FS SOW and Work Plan for Auxiliary Reactor Area/Power Burst Facility Area.
- Provided Feasibility Screening document to agencies for the RWMC Comprehensive RI/FS.

- Provided revised SOW for Radioactive Waste Management Complex (RWMC) Comprehensive RI/FS.

Cleanup

- WAG 1
  - OU 1-07B TAN Groundwater Treatment Facility (GWTF) began continuous operations, initiating hydraulic plume containment (processed 17,378,884 gallons of water). Also completed construction of five extraction wells and five observation wells for the new Pump and Treat Facility.

- WAG 4
  - Field work completed (engineered caps) for OU 4-12 CFA Landfills I, II and III.
  - OU 4-05 Removal Action—20 thousand gallons of mercury-contaminated water shipped to an off-site treatment facility, cleaned treated soils, decontaminated tanks and returned to vendor, shipped all mercury-contaminated soils offsite for treatment.
  - WAG 4 Miscellaneous Sites NTCRA—5,300 cubic yards and 6,500 cubic yards of petroleum contaminated soils removed from CFA-17/47 and CFA-42 respectively.

- WAG 5
  - Completed construction of the engineered barriers at OU 5-05 SL-1 Burial Ground and 6-01 BORAX-1 Buried Reactor Cleanup Areas.
  - Completed sludge removal from the ARA-02 Septic Tanks, Polychlorinatedbiphenyl (PCB) sludge awaiting shipment to the Oak Ridge TSCA Incinerator.

- WAG 7
  - Continued operations of the OU 7-08 OCVZ Water Treatment System (2,414 gallons of VOCs have been removed from the subsurface of the SDA since operations began); Enhanced Passive Vapor Extraction (EPVE) System for the OCVZ installed over Pit 2 in the SDA, weather enclosures installed over the OCVZ systems.

- WAG 8
  - Completion of Final Remedial Action Report for the NRF Inactive Landfill cover construction (OU 8-05/06).

- WAG 10
  - OU 10-03 Ordnance Assessment, Removal and Remediation—completed surface clearance at the Rail Car Explosion and Fuse Burn Areas. FY 97 NTCRA—removed 146 pieces of ordnance, 30,690 pounds of scrap, and cleared 204 acres.
  - OU 10-06 NTCRA—completed removal of 2,550 cubic yards of contaminated soils.
  - WAG 10 Micropurging—completed installation of micropurging pumps at TAN.

- D&D
  - ARA-626 Hot Cell Facility—completed high bay asbestos removal; completed decontamination and equipment removal; initiated saw cutting of hot cell concrete; 460 lead bricks were sampled, cleaned and packaged for re-use.
  - D&D for ARA-604 Guard House completed.
  - ICPP—demolition of CPP-631 and CPP-734 completed; D&D of the ETR-751 Cooling Tower Basin completed; D&D of TRA-645 Secondary Coolant Pump House completed.

ANL-West

The following activities were accomplished in FY 97 at ANL-West:

Cleanup

The Leach Pit and PCB-contaminated soil removal actions were completed.

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PADUCAH GASEOUS DIFFUSION PLANT

Paducah, McCracken County, Kentucky

Office: Oak Ridge Operations Office

Size: 3,423 acres (5.3 square miles)

NPL Status: Placed on the NPL on May 31, 1994.

Mission: The Paducah Gaseous Diffusion Plant (PGDP), established in 1950 on the grounds of the old Kentucky Ordnance Works Trinitrotoluene Plant, is actively engaged in the enrichment of uranium using gaseous diffusion technology. Most of the uranium output from the plant is designated for the commercial sector. In July 1993, DOE officially transferred responsibility for site operations to the U.S. Enrichment Corporation in accordance with the Energy Policy Act of 1992.

Overview of Environmental Conditions: The site consists of 208 Solid Waste Management Units (SWMUs) and areas of concern, which have been divided into 30 Waste Area Groups (WAGs). Onsite chemical contamination of soils was identified. Offsite groundwater contamination consists of trichloroethylene and technetium-99; offsite creek sediment contamination consists of PCBs.

The cleanup approach is to address potential public risks through source control, plume mitigation, and groundwater treatment.

CERCLA/RCRA Remediation Funding in FY 97: $37,458,000

Progress in Reaching Interagency Agreement

DOE, EPA Region IV, and the State of Kentucky negotiated a Federal Facility Agreement for PGDP during calendar years 1996 and 1997. The FFA was signed and executed in February 1998. It integrates CERCLA/NCP requirements with the requirements for RCRA corrective measures according to the conditions of PGDP's Federal RCRA Permit, Kentucky's Hazardous Waste Permit (RCRA), and actions taken previously under a CERCLA Administrative Consent Order.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration at Paducah Gaseous Diffusion Plant total $43.1 million of appropriated funding for FY 98 and $55.2 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

A public notice was published in the local newspapers on April 17, 1997 requesting stakeholder comments on the draft FFA. Comments were received from members of the public which, in general, were related to increased public involvement in the cleanup program at Paducah Gaseous Diffusion Plant. This concern was also expressed by the Site Specific Advisory Board in a consensus recommendation "...to provide public participation in the planning process to the maximum extent possible." The comment period ended June 20, 1997. The FFA addresses public participation requirements and development of a Community Relations Plan to include procedures for solicitation of public comment and dissemination of information to the PGDP Site Specific Advisory Board.

Progress in Conducting Remedial Investigations/Feasibility Studies

The strategy to address contamination at PGDP has been documented in agreements between the DOE, EPA, and Kentucky. PGDP will prioritize response actions by WAGs to address threats to human health and the environment based upon the following criteria: a) mitigate immediate threats in all media, on or offsite; b) control "hot spots" associated with offsite contamination; c) address suspected sources of offsite contamination; and d) implement final actions for groundwater and surface water integrator units.

FY 97 Accomplishments:

- Completed assessment activities at former Underground Storage Tank (UST) locations, diesel fuel spill sites, and concrete rubble piles (WAGs 15 and 17) to support a "No Further Action" determination.

- Completed an Engineering Evaluation/Cost Analysis and Action Memorandum for PCB spill sites within WAG 23 to support removal actions.

- Completed an RI/FS Work Plan for WAGs 6, 27 and 28.

- Completed RI Reports for the C-749 Uranium Burial Ground, the C-747-A Burial Ground, and the C-747 Burn Area (WAG 22, SWMUs 2, 7 and 30).

- Completed background soils report and received regulatory approval.

- Characterized approximately three thousand drums of waste for the Vortec Technology Demonstration Project.

- Completed 22 characterization events for the Land Disposal Restrictions FFCA/FFCAct Site Treatment Plan.

Progress in Conducting Remedial Actions

Interim pump and treat systems have been implemented for the two large groundwater plumes, referred to as the Northeast and Northwest Plumes, to initiate control of migration of the high-contaminant concentrated areas. An alternative potable water supply has also been provided to affected offsite residents.

FY 97 Accomplishments:

- Completed draft ROD and Remedial Design Report for the C-611 petroleum tank release sites, C-740 TCE spill site, a fire training area, and the C-746-K inactive sanitary landfill (WAGs 1 and 7) remedial action.

- Completed Feasibility Evaluation and Proposed Plan for full scale implementation of Lasagna Technology for TCE contaminated soil cleanup of the Former Cylinder Drop Test Area, SWMU 91.

- Completed construction and testing of the Northeast Plume Containment System Interim Remedial Action.

- Completed three innovative technology demonstrations; Lasagna and Electro-osmosis technologies for in-situ treatment of TCE contaminated soil and Membrane technology to treat Technetium-99 contaminated groundwater.

- Completed Independent Professional Engineer's Certification Report for RCRA Closure of C-400-C Nickel Stripper and C-409 Hazardous Waste Pilot Plant.

- Completed disposal of more than three thousand tons of waste in onsite C-746-U landfill.

- Completed offsite treatment and disposal of 30 cubic meters of RCRA waste (approximately 4 percent of RCRA inventory).

- Completed offsite shipments of 145 cubic meters of TSCA/RCRA wastewater.

- Completed cleaning and relocating approximately four thousand aluminum ingots.

- Removed, characterized, decontaminated, and dispositioned 15 fluorine cells from the C-410 complex.

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ST. LOUIS SITE
(St. Louis Airport Site and Vicinity Properties, Latty Avenue Properties, and St. Louis Downtown Site)
Hazelwood, St. Louis County, Missouri

Office: Oak Ridge Operations Office

Size: 21.7 acres (0.03 square mile)

NPL Status: Placed on the NPL on October 4, 1989, except St. Louis Downtown Site, which is not an NPL site.

Mission: The St. Louis Site, established as a storage site in 1946, stored radioactive residues, contaminated scrap, and equipment generated by processing plants in St. Louis from 1946 to 1969. Cleanup authority at the site was acquired by DOE under a Congressional mandate and is managed by DOE under its Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP sites comprise sites formerly associated with the Manhattan Engineer District Project and the Atomic Energy Commission. Because these sites are not owned or operated by DOE, they do not appear on the docket.

Overview of Environmental Conditions: Onsite soil and groundwater contamination by radioactive constituents. Offsite soil and sediment contamination also identified.

CERCLA/RCRA Remediation Funding in FY 97: $24,254,000

Progress in Reaching Interagency Agreement

DOE and EPA Region VII executed an FFA for the St. Louis Site on June 26, 1990. The St. Louis Site consists of the St. Louis Airport Site and Vicinity Properties, and Latty Avenue Properties, all of which were added to EPA's NPL in October 1989. An additional site, not included in the original 1989 NPL, is being addressed in accordance with requirements stipulated in the FFA to make the remediation process more efficient. This site, identified as the St. Louis Downtown Site, is now part of DOE's FUSRAP program.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

The Energy and Water Development Appropriations Act, 1998, transferred this and the other FUSRAP sites to the U.S. Army Corps of Engineers. Responsibility for the budget for this site for FY 98 and beyond transferred as well.

Public Comments Regarding Interagency Agreements

No new public comments regarding the FFA were received in FY 97.

Progress in Conducting Remedial Investigations/Feasibility Studies

The RI/FS work plan for the St. Louis Site was approved by EPA Region VII in calendar year 1991. A public scoping meeting for the preparation of an RI/FS was held in January 1992. An RI report was approved by EPA Region VII in 1992. Some limited additional field investigation was performed in FY 92 to supplement the existing characterization data. The Initial Screening of Alternatives was approved by EPA

Region VII in FY 92. Based on the results of the Initial Screening of Alternatives, a FS was prepared and issued for review to EPA Region VII and the State of Missouri in FY 93.

The FS was completed and submitted to EPA and the State of Missouri for review. EPA has delayed final approval of the FS, and DOE agreed to reconsider the remedy selection proposed in the draft proposed plan. EPA and DOE agreed to postpone the submittal of the PP and defer the ROD in order to solicit input from a St. Louis stakeholder group. This group, named the St. Louis Site Citizens Remediation Task Force, was established in September 1994. It consisted of elected officials, state and Federal regulators, public health officials, utility and business representatives, and interested citizens.

Progress in Conducting Remedial Actions

An Interim Action EE/CA and Action Memorandum was prepared for the St. Louis Airport Site (SLAPS). Removal actions were performed at 14 North County vicinity properties in FY 97. One building was decontaminated and 10 buildings were demolished at the Downtown Site. Final remedial action will be implemented following signing of the ROD. Proposals for interim cleanup measures have been made for properties in the vicinity of the SLAPS, the Latty Avenue Site, and the St. Louis Downtown Site.

WELDON SPRING SITE REMEDIAL ACTION PROJECT

St. Charles County, Missouri

Office: Oak Ridge Operations Office

Size: 226 acres (0.4 square mile)

NPL Status: Quarry placed on the NPL on July 22, 1987 and Chemical Plant and Raffinate Pits placed on the NPL on March 13, 1989.

Mission: The Weldon Spring Site was developed by the U.S. Army for explosives production during World War II, and was operated by the Atomic Energy Commission from 1955 to 1966 as a uranium processing plant.

Overview of Environmental Conditions: Soil, surface water, groundwater, and building rubble contamination resulting from the handling and disposal of uranium ore concentrates and scrap.

CERCLA/RCRA Remediation Funding in FY 97: $63,689,000

Progress in Reaching Interagency Agreement

DOE and EPA Region VII entered into a FFA, signed on August 12, 1986. An amended FFA was signed on June 30, 1992.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration under the FFA at the site total $65.8 million of appropriated funding for FY 98 and $65.0 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

The public comment period for the FFA began on March 22, 1992 and remained open for 45 days. No comments were received during this period.

Progress in Conducting Remedial Investigations/Feasibility Studies

Initial work was started under a CERCLA/National Environmental Policy Act (NEPA) Federal Facility Compliance Agreement executed in 1986. Subsequently, the site was placed on the NPL in July 1987. The Weldon Spring Site project issued a work plan in August 1988 which presented the overall strategy for accomplishing remedial actions. That strategy included the development of an umbrella RI/FS for the Chemical Plant Area, an RI/FS for Quarry bulk wastes, an RI/FS for Quarry residuals, and several interim response actions. A need was subsequently identified to specifically address groundwater at the Chemical Plant Area through an additional RI/FS.

Major accomplishments in FY 97 included:

- Submitted the Draft RI/BRA for Quarry Residuals OU to EPA in December 1996.
- Issued draft Feasibility Study/Proposed Plan for Site Groundwater OU to EPA in August 1997.

Progress in Conducting Remedial Actions

Remedial actions accomplished during FY 97 included:

- One hundred percent of the design of the Full-Scale Sludge Processing Facility and construction began in May 1997.
- To date, 43 of the 44 buildings have been demolished.
- As of September 1997, 19 million gallons of water were treated and a total of 167 million gallons of water have been treated at the Quarry Water Treatment Plant and Site Water Treatment Plant.
- Completed the excavation and removal of all 27 building foundations in July 1997.
- Completed the remediation design of the Southeast Drainage and Missouri Department of Conservation Property 5 in June 1997.
- Initiated construction of the On Site Disposal Facility in December 1996, and completed Phase I Clean Fill construction in August 1997.
- Completed debris consolidation, including 6 thousand waste drums, in Raffinate Pit 4 in December 1996.
- Began remediation of Army Vicinity Properties 1, 2, 3, 5 and Missouri Department of Conservation Property 4 in August 1997.

MAYWOOD SITE
Maywood/Rochelle Park/ Lodi, Bergen County, New Jersey

Office: Oak Ridge Operations Office

Size: 12 acres (0.02 square mile)

NPL Status: Placed on the NPL on September 8, 1983.

Mission: The Maywood Site, a privately owned site previously used for thorium extraction, was acquired by DOE in 1984. In FY 97 DOE was cleaning up the site under direction from Congress, as the site was managed by DOE under FUSRAP. The Maywood Site is used specifically for storage of radiologically contaminated materials resulting from remedial activities conducted on properties in the vicinity of the Maywood Site.

Overview of Environmental Conditions: Onsite and offsite soil has been contaminated with radiological contaminants and associated chemicals. Approximately 54 remaining vicinity properties are radiologically contaminated.

CERCLA/RCRA Remediation Funding in FY 97: $12,678,000

Progress in Reaching Interagency Agreement

The FFA for the Maywood Site, signed by EPA Region II and DOE on July 23, 1990, became effective in April 1991. Schedules were subsequently negotiated for the DOE submittal of the RI, the baseline risk assessment, and the FS. EPA Region II reviewed and approved the schedules on November 25, 1991.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

The Energy and Water Development Appropriations Act, 1998, transferred this and the other FUSRAP sites to the U.S. Army Corps of Engineers. Responsibility for the budget for this site for FY 98 and beyond transferred as well.

Public Comments Regarding Interagency Agreements

No new public comments regarding the FFA were received in FY 97.

Progress in Conducting Remedial Investigations/Feasibility Studies

DOE and EPA Region II conducted negotiations for a schedule for issuing the PP for the site.

Progress in Conducting Remedial Actions

Substantial progress has been made using removal actions. The site consists of the DOE-owned Maywood Interim Storage Site and vicinity properties, all of which are contaminated. As of May 1986, 25 of the vicinity properties were cleaned up using removal actions, and the resulting waste was placed in storage in the engineered cell at the Maywood Interim Storage Site. During FY 94, a dispute with EPA over cleanup criteria

was resolved and agreement was reached with the State of New Jersey on the cleanup criteria for residential properties. Removal of the Maywood Interim Storage Site Pile began in 1995. The Pile removal was completed in FY 97. Remedial action continued at selected vicinity properties. Seven contaminated vicinity properties were released back to the landowner for unrestricted use during FY 97.

WAYNE SITE

Wayne and Pequannock Townships, New Jersey

Office: Oak Ridge Operations Office

Size: 7 acres (0.01 square mile)

NPL Status: Placed on the NPL on September 21, 1984.

Mission: The Wayne Site, a privately owned site previously used for thorium extraction, was acquired by DOE in 1984. In FY 97 DOE was cleaning up the Wayne Site under the direction of Congress, as the site is managed by DOE under FUSRAP. The Wayne Site was used specifically as an interim storage site for contaminated material removed during cleanup of the site and several vicinity properties.

Overview of Environmental Conditions: Onsite soil contaminated by radiological and possible chemical constituents.

CERCLA/RCRA Remediation Funding in FY 97: $6,384,000

Progress in Reaching Interagency Agreement

A FFA for the Wayne Site, signed by EPA on July 17, 1990 and by DOE on July 23, 1990, became effective in April 1991. Schedules were subsequently negotiated for the submittal of the RI, the baseline risk assessment, and the FS reports. EPA Region II reviewed and approved the schedules on November 25, 1991.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

The Energy and Water Development Appropriations Act, 1998, transferred this and the other FUSRAP sites to the U.S. Army Corps of Engineers. Responsibility for the budget for this site for FY 98 and beyond transferred as well.

Public Comments Regarding Interagency Agreements

No new public comments regarding the FFA were received in FY 97.

Progress in Conducting Remedial Investigations/Feasibility Studies

The RI report for the Wayne Site was issued in October 1993. The Baseline Risk Assessment Report was finalized in January 1994. The EPA Final Draft FS Report was issued in March 1994. The PP for the site was developed, EPA Region II provided comments on the plan in September 1995.

Progress in Conducting Remedial Actions

Earlier removal actions at the site entailed removing waste from the vicinity properties and storing it in an engineered waste storage pile at the Wayne Interim Storage Site. In FY 94, all remaining vicinity properties at the Wayne Site were remediated. A non-time critical removal action was initiated in FY 95 to ship contaminated material from the interim storage pile to a commercial disposal facility in Utah. During FY 97, approximately 12 thousand cubic yards were removed from the storage pile and shipped to the disposal site. Pile removal was approximately 75 percent complete as of September 1997.

In FY 97 the Department of Energy continued its negotiations with the former site owner of the Wayne Interim Storage Site concerning contribution toward the cleanup costs.

BROOKHAVEN NATIONAL LABORATORY

Upton, Suffolk County, New York

Office: Chicago Operations Office

Size: 5,300 acres (8.3 square miles)

NPL Status: Placed on the NPL on November 21, 1989.

Mission: Historically, the site was used by the U.S. Army as a post (called Camp Upton) during the First and Second World Wars. The Atomic Energy Commission was given title to the property in 1947.

Brookhaven National Laboratory functions as a design, construction, and operations center for large research facilities such as particle accelerators, nuclear reactors, and synchrotron storage rings for research in high-energy and nuclear physics, chemistry, biology, and energy-related life and environmental sciences.

Overview of Environmental Conditions: Groundwater and soil contamination.

CERCLA/RCRA Remediation Funding in FY 97: $20,456,000

Progress in Reaching Interagency Agreement

DOE, EPA Region II, and the State of New York executed the IAG for Brookhaven National Laboratory on February 28, 1992. The effective date of the agreement was May 27, 1992. The IAG integrates both corrective action requirements under RCRA and response action requirements under CERCLA.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration under the IAG at the Brookhaven National Laboratory total $19.5 million of appropriated funding for FY 98 (includes additional funding to complete municipal water hookups) and $18.3 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

No new public comments regarding the IAG were received in FY 97.

Progress in Conducting Remedial Investigations/Feasibility Studies

In FY 97, the following major documents were submitted to EPA and the State of New York:

- OU I FS, Proposed Plan and Draft ROD
- OU III RI
- OU V FS and Proposed Plan
- OU VI ROD

Progress in Conducting Remedial Actions

In FY 97, the following remedial actions occurred:

- Public water hookups provided to over 1300 residences;
- The “former” landfill cap was completed;
- Chemical Holes buried waste was excavated;
- “Interim” landfill capping was initiated;
- OU I, OU III, and Tritium Groundwater Systems became operational; and
- OU IV remedy construction was initiated.

Enforcement Activities

A $100,000 assessment of penalties under RCRA/TSCA was pending throughout 1992 and 1993. A settlement of $62,000 was reached in the spring of 1994. On May 11, 1994, DOE, EPA, and the operating contractor (Associated Universities Incorporated) signed an agreement on the penalty, which also included preparation of a Wildlife Survey and Management Plan and an internal audit of the hazardous waste management system.

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Fernald, Hamilton County, Ohio

Office: Ohio Field Office Project

Size: 1,050 acres (1.6 square miles)

NPL Status: Placed on the NPL on November 21, 1989.

Mission: The Fernald Environmental Management Project (FEMP), formerly the Feed Materials Production Center, was constructed in the early 1950s and was used to produce uranium metal products for use by the Government. Production was suspended in July 1989.

Overview of Environmental Conditions: Soil and groundwater contamination by radionuclides above background levels both onsite and in adjacent offsite areas. Release of radon and the retention of large quantities of low-level radioactive and mixed wastes in onsite storage areas are also of significant concern.

CERCLA/RCRA Remediation Funding in FY 97: $258,675,000

Progress in Reaching Interagency Agreement

In FY97 FEMP was "knocking down buildings and moving dirt," which demonstrates real progress since the Consent Agreement became effective in June 1990. Final Records of Decision for all five Operable Units have been approved. Therefore, site activities at FEMP have moved from the assessment phase and well into the cleanup phase.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration in support of these agreements at the FEMP total $258.7 million for FY 98 and $275.3 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

In FY 1997, public comments were received during the dispute resolution for Operable Unit 4. Also, public comments were solicited for the Natural Resource Damage Settlement.

Progress in Conducting Remedial Investigations/Feasibility Studies

Assessment activities for Fernald were completed before FY 97.

Progress in Conducting Remedial Actions

OU 1: Waste Storage Area

This OU comprises the existing six FEMP waste pits, the Clearwell, the Burnpit, berms, liners, and soil within the OU boundary. The selected remedy for OU 1 is removal, treatment, and offsite disposal at a permitted commercial disposal facility. This remedy addresses the principal threats posed by OU 1 by removing waste materials and contaminated soils to health-based levels, and treating waste materials and soils to facilitate waste handling. These actions reduce the potential for contaminant migration and ensure disposal facility waste acceptance criteria are met.

The OU 1 Record of Decision was signed on March 1, 1995. The approved Remedial Design/Remedial Action Work Plan established six milestones. The waste pits cleanup contract was awarded to IT Corporation. The contract provides for payment to IT for the waste that is shipped. IT Corporation will pay the costs of all infrastructure development until the waste is actually treated and shipped. The rail infrastructure, including onsite and offsite activities, is progressing well.

OU 2: Other Waste Units

OU 2 addresses the Solid Waste Landfill, North and South Lime Sludge Ponds, Inactive and Active Flyash Piles and the On Site Disposal Facility (OSDF). The OU 2 ROD was signed by U.S. EPA in May 1995. The Remedial Design Work Plan and Remedial Action Work Plan have been accepted by the U.S. EPA. The OSDF design has been completed, and the construction of Cell 1 has been completed. Phase II of the OSDF construction began in July 1998.

The OU 2 in-ground waste excavation work is being undertaken by OU 5 as part of the projectization. Significant effort has been put into developing institutional controls to ensure that only acceptable waste continues to be placed into the OSDF. These controls ensure that the waste regulations are strictly met and that the cell integrity is maximized.

OU 3: Production Area and Production-Associated Facilities

OU 3 addresses the above- and below-grade improvements on the FEMP property and waste management. The OU 3 Record of Decision for Interim Remedial Action (IROD) (June 1994) established that the ROD for the OU 3 final remedial action would establish the strategy for the final disposition of the materials generated from the interim remedial action. All OU 3 buildings and structures will first be decontaminated and then dismantled. The D&D sequence and schedule were initially outlined, but a revised D&D sequence and schedule for implementation plan submittals were approved by U.S. EPA and Ohio EPA in May 1996.

The Record of Decision for Final Remedial Action was signed in August 1996; it incorporated the IROD and four ongoing removal actions. An Integrated Remedial Design/Remedial Action Work Plan was approved by U.S. EPA in May 1997, which delineates the overall path for OU 3. Completed work includes the demolition of the Plant 1 Ore Silos, the High/Low Nitrate Tanks, Plant 1, Plant 4A, and Plant 7.

OU 4: Silos 1, 2, 3, and 4

This OU comprises the four waste storage silos located in the FEMP waste storage area. Radioactive ore residues are stored in Silos 1 and 2, and this material emits significant amounts of radon. Stakeholders are greatly concerned about this material. Cold metal oxides are stored in Silo 3, and Silo 4 is empty.

The Record of Decision was signed in December 1994. The OU 4 Remedial Design Work Plan was signed in May 1995, and enforceable milestones were set in this plan. Additional milestones were set in the Remedial Action approved by the U.S. EPA in October 1995. A pilot program was undertaken to test vitrification as a method to treat the silo material. Difficulties with this pilot program resulted in certain milestones becoming unattainable. Resolution was obtained only through a formal administrative agreement with the U.S. EPA. The resolution agreement required the OU 4 ROD to be amended for Silo 1 and 2, and an Explanation of Significant Differences was required for Silo 3. The agreement required DOE to perform several Supplemental Environmental Projects (SEP) on wildlife and habitat restoration and scrap recycling in lieu of penalties. Implementation of the SEP Work Plans is well underway.

These technical difficulties led U.S. EPA and DOE to decide to use stabilization for the Silo 3 material instead of vitrification as required by the Feasibility Study. A Remedial Design Work Plan for Silo 3 was submitted to U.S. EPA and Ohio EPA in May 1998. Contracts have been awarded for the study of methods to best treat the Silo 1 and 2 material. DOE has also prepared a Statement of Work for accelerating waste retrieval from Silos 1 and 2. For Silo 3, DOE, employing the ROD amendment process, will decide upon the best method to stabilize or immobilize that material and develop milestones for implementing that method.

OU 5: Environmental Media

All media, soil, groundwater, and surface water remediation activities are within OU 5. An estimated 1.8 million cubic yards of soil will be excavated. Under projectization, excavation activities for other OUs and the OU 4 work are under the management of OU 5. Sitewide environmental monitoring is also under the management of OU 5.

The Record of Decision was signed in January 1996. DOE committed to clean up the contaminated soil and aquifer to the levels specified in the ROD considering the use of the property after remediation. The soils and water remediation projects are a major engineering and construction effort. The groundwater monitoring required by the ROD has been integrated with the RCRA monitoring requirements, resulting in significant savings. The Integrated Environmental Monitoring Plan was submitted in March 1977.

Under removal action authority, DOE assisted the local water works entity to provide municipal water to homeowners whose well water was affected by the contaminated plume. This effort has reduced the health risk to the public.

The Remedial Design Work Plan was submitted in June 1996, and the Remedial Action Work Plan for the Aquifer was submitted in April 1997. The Area 1, Phase 1 Remedial Action Work Plan was submitted in 1996, and the Final Remedial Action Work Plan for Area 1, Phase 1 was submitted in January 1997.

Additionally, OU 5 negotiated a resolution of Ohio's Natural Resource Damage Claim. The settlement of the claim is being addressed through the Natural Resources Damage Assessment process and the subsequent development of a natural resources restoration plan.

Removal Actions

Thirty removal actions have been designated for the Fernald site, two of which have multiple phases resulting in 34 actions. These actions have been assigned to various site complexes. With the exception of one RA, which was canceled, all removal actions have been incorporated with RD/RA Work Plans.

Enforcement Activities

In October 1996, FEMP entered into a Final Dispute Resolution with EPA concerning replanning of a milestone for OU 4. The resolution agreement, readied in FY 97 amended the OU 4 ROD for Silos 1 and 2, and an Explanation of Significant Differences was required for Silo 3.

MOUND PLANT
Dayton, Montgomery County, Ohio

Office: Ohio Operations Office

Size: 306 acres (0.5 square mile)

NPL Status: Placed on the NPL on November 21, 1989.

Mission: The Mound Plant has been in continuous use since 1948. Its main mission was to manufacture non-nuclear components and tritium-containing components for nuclear weapons that were assembled at another site. Other activities include the separation, purification, and sale of stable isotopes of the noble gases; solar energy; fossil fuels; nuclear safeguards; waste management; heat source testing (plutonium); and fusion fuel systems. In 1995, the primary mission changed to cleanup to industrial standards, as approved by EPA, in order to sell the site for industrial use.

Overview of Environmental Conditions: Tritium and VOC contamination of onsite and offsite groundwater and soils contaminated with residual plutonium from past onsite operations.

CERCLA/RCRA Remediation Funding in FY 97: $88,912,000

Progress in Reaching Interagency Agreement

DOE and EPA Region V executed an FFA on August 6, 1990. The State of Ohio expressed an interest in developing a three-party agreement, with the State of Ohio being added to the FFA. Negotiations were held on the development of the new three-party FFA, which were culminated by the signing of this new agreement on July 15, 1993.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration under the FFA total $86.6 million of appropriated funding for FY 98 and $91.0 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

Prior to FY 93, limited public comments were received on the original 1990 FFA. Most of those comments inquired why the site was placed on the NPL. Limited comments were received during the FY 93 comment period for the new three-party FFA (no formal comment period in FY 94). EPA Region V, the State of Ohio, and DOE evaluated these comments and determined that no modifications to the FFA were required.

Progress in Conducting Remedial Investigations/Feasibility Studies

The Mound Plant was originally divided into nine OUs that separated the plant into geographic units. In FY 96, Mound rebaselined its cleanup effort to be more action-oriented to result in an acceleration of cleanup at a reduced cost. The site is now divided into "Onsite Areas," "Offsite Areas," and a "Groundwater" element. The Onsite Areas incorporate nearly all work activities

inside the fence line of the plant associated with areas previously identified in OUs 2, 5, and 6. The Onsite Areas contain 19 release blocks (letters A through S) containing approximately 219 potential release sites that will undergo a Removal Site Evaluation process to determine site uncertainties, potential data needs, and ultimately the appropriate response action required under CERCLA. The potential release sites are evaluated to determine:

- Sites that require No Further Assessment based on existing information (i.e., no problem exists at the site);

- Sites for which a response action is warranted based on existing information (i.e., a problem does exist); and

- Sites for which there is insufficient information available to make a determination (i.e., not able to determine if there is a problem).

The Offsite Work addresses the remediation of the plutonium-contaminated soils and sediment in the Miami-Erie Canal located adjacent to the Mound Plant (within the City of Miamisburg) resulting from a ruptured waste process line in 1969 and the remaining effort of the RI/FS process for OU 9. The groundwater element addresses the implementation of the groundwater remedy for the VOCs found in a portion of the Buried Valley Aquifer underlying the southwest corner of the plant, also known as OU 1, for which a ROD was completed in FY 95.

Progress in Conducting Remedial Actions

Field work for the Miami-Erie Canal Removal Action was initiated in FY 96. This included clearing the area of trees and brush, constructing new access roads, installing a new storm water runoff channel, and installing a mobile laboratory.

Design of a permanent air sparging/soil vapor extraction and high vacuum extraction remedial system was initiated for the implementation of the groundwater remedy for the VOCs addressed in the OU 1 ROD.

The Area 7 Actinium Removal Action removed and shipped 569 boxes of contaminated soil.

Contaminated soils associated with the Fuel Oil Storage Removal Action have been completely removed, and approximately 200 cubic yards of petroleum-contaminated soil have been successfully treated in a bioremediation facility.

In FY 97, EPA, Ohio EPA and DOE determined that 156 potential release sites required no further assessment, 14 potential release sites required a response action, and 39 were determined to require further assessment before a decision could be made about the action. The Miami-Erie Canal Removal Action, the largest to date at the Mound Plant, continued, with excavated soil being shipped by rail (367 rail cars) to Envirocare at Utah, representing 816 thousand cubic feet of plutonium-contaminated soil. And Actinium (Potential Release Site [PRS] 86) removal was also concluded, along with a Thorium removal being initiated (Building 21 soils PRS). The remainder of the removals awaits availability of funds.

SAVANNAH RIVER SITE
Aiken, Aiken County, South Carolina

Office: Savannah River Operations Office

Size: Approximately 198,400 acres (310 square miles)

NPL Status: Placed on the NPL on November 21, 1989.

Mission: The Savannah River Site (SRS) is located in south-central South Carolina, approximately 25 miles southeast of Augusta, Georgia and 20 miles south of Aiken, South Carolina. The site encompasses 310 square miles and is bordered by the Savannah River on the southwest. Although SRS' primary mission over the past 40 years focused on the production of nuclear materials (primarily tritium and plutonium) for national defense, the site's nuclear production reactors have not operated since 1988. R Reactor was shut down permanently in 1964, and C Reactor was placed in cold standby in 1987. K, P, and L reactors were shut down in 1988 for maintenance and safety upgrades and have never been restarted. As a result, much of the site's mission has turned to environmental restoration and waste management activities. The current program consists of 477 inactive waste and groundwater sites and an estimated 600 facilities that are candidates for decommissioning.

(continued)

Progress in Reaching Interagency Agreement

DOE, EPA Region IV, and the State of South Carolina negotiated an IAG for SRS during calendar years 1990 through 1992. The IAG was executed on January 15, 1993 and became effective on August 16, 1993.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration under the IAG total $97.4 million of appropriated funding for FY 98 and $102.0 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

The IAG Notice of Intent was signed on December 2, 1991. The document was released for a 60-day public review on December 17, 1991; the public comment period ended on February 14, 1992. A public meeting was held on January 23, 1992. Significant public comments focused on the specific roles and jurisdictions of the South Carolina Department of Health and Environmental Control (SCDHEC) and EPA Region IV in maintaining and enforcing DOE SRS cleanup actions.

The public comments also included concerns that the IAG should not limit SCDHEC's RCRA authority. The IAG was revised to better clarify dispute resolution procedures and authorities of the two regulators for oversight of RCRA and CERCLA cleanup activities.

Additionally, public comments showed the need to revise SRS' system of prioritizing waste units. The IAG was revised to include a priority system recommended by EPA, and a responsiveness summary addressing public comments was issued in 1993.

Overview of Environmental Conditions: Onsite soil, groundwater and air emissions associated with chemical and radioactive releases.

CERCLA/RCRA Remediation Funding in FY 97: $103,000,000

Comments requesting a site advisory board consisting of members of the public were addressed in a revised public involvement plan. SRS developed a site-specific advisory board, called the Citizens Advisory Board, which began functioning in 1994 and has made ten recommendations to DOE.

Progress in Conducting Remedial Investigations/Feasibility Studies

An RCRA 3004(u) permit was issued by EPA Region IV and the State of South Carolina on September 29, 1987. A program plan, which outlines the requirements for the preparation of unit-specific investigation plans and proposed plans, was revised on August 20, 1993. The following activities were accomplished during FY 97:

- Submitted nine RFI/RI Plans;
- Submitted seven Interim Actions;
- Submitted five RFI/RI and Baseline Risk Assessment Reports;
- Submitted 24 Site Evaluation Reports; including 46 No Further Action approvals or proposals;
- Performed 11 Removal Actions;
- Submitted six Proposed Plans;
- Initiated field starts at six waste units;
- Issued eight RODs for 10 waste units; and
- Submitted four Corrective Measures Study/Feasibility Study Reports

Progress in Conducting Remedial Actions

The following activities were accomplished in FY 97:

- Twenty-nine sites entered the remediation phase;
- Began F&H Groundwater Treatment Systems operation;
- Installed recirculation wells to remediate M-Area Southern Sector groundwater;
- Removed 115 thousand pounds of solvents in the A/M Area and treated more than 360 thousand gallons of groundwater;
- Placed 30 acres into the remediation phase, bringing the total to 280 acres of the 500 presently in the Environmental Restoration Program;

- Achieved 85 of 85 required Regulatory Enforceable Agreement milestones;
- Felled, chipped and stored 220 thousand pounds of contaminated vegetation at the SRL Seepage Basin;
- Completed two of three dynamic compaction areas and began final remediation activities at the 25-acre Low Level Radioactive Waste Disposal Facility; and
- Completed interim soils cover remediation at the 76-acre Old Radioactive Waste Burial Ground.

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OAK RIDGE RESERVATION (Oak Ridge National Laboratory; Y-12 Plant; K-25 Site [Oak Ridge Gaseous Diffusion Plant]; and Oak Ridge Associated Universities)

Oak Ridge, Anderson and Roane Counties, Tennessee

Office: Oak Ridge Operations Office

Size: 37,000 acres (57.8 square miles)

NPL Status: Placed on the NPL on November 21, 1989.

Mission: The Oak Ridge National Laboratory (ORNL) provides extensive research and development in energy production. Activities include reactor and accelerator development and operation, production and sale of radioactive and stable isotopes, and environmental and health research.

The K-25 Site (the Oak Ridge Gaseous Diffusion Plant) was a production and development facility for uranium enrichment. Production operations at the K-25 Site ceased in 1985. The K-25 Site is now known as the East Tennessee Technology Park. Portions of the site are being cleaned up for industrial reuse under a cost sharing program with the private sector.

The Y-12 Plant's original mission was to separate the fissionable isotope of uranium-235 by the electromagnetic process. The plant today has four principal missions: to dismantle nuclear weapon components; to provide special production support to DOE programs; to support ORNL research programs; and to serve as a manufacturing, technology, and demonstration center.

(continued)

Progress in Reaching Interagency Agreement

DOE, EPA Region IV, and the State of Tennessee have negotiated an IAG for the following sites included within the Oak Ridge Reservation (ORR): ORNL, Y-12 Plant, K-25 Site, ORAU, and the Clinch River. The IAG was effective on January 1, 1992. In accordance with the IAG, the ORR is currently integrating the requirements of corrective measures under RCRA and applicable state law with response actions under CERCLA.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration under the IAG at the ORR total $89.4 million of appropriated funds for FY 98 and $92.9 million for FY 99 according to the request in the President's Budget.

Progress in Conducting Remedial Investigations/Feasibility Studies

To address contamination of the ORR as a whole, the reservation has been partitioned into 80 OUs/Work Units consisting of source control OUs and integrator OUs

Mission (continued):

The Oak Ridge Associated Universities (ORAU) is a private, not-for-profit association of 49 colleges and universities. It is a contractor to DOE, conducting research and education programs in the areas of energy, health, and the environment for DOE, ORAU's member institutions, and other private and government organizations.

Overview of Environmental Conditions: The sites include waste units that are either radioactive, hazardous, mixed (both radioactive and hazardous), or non-radioactive/non-hazardous. Examples of the concerns include radioactive underground tanks, solid waste disposal areas, liquid waste pit and trenches, hydrofracture facilities, and dense, non-aqueous phase liquid migration in fractured rock. More than 400 contaminated units exist at the reservation, and surface water and groundwater also are contaminated.

CERCLA/RCRA Remediation Funding in FY 97: $85,947,000

(such as groundwater and surfacewater), which can be prioritized to achieve the most effective and rapid investigation and cleanup possible. OUs are redefined and work schedules are adjusted as investigations progress and new data become available. RI/FSs are being conducted for each OU. The OUs are further consolidated into one of five watershed units. The watershed approach assures a comprehensive examination of all contamination and saves time and money through the elimination of redundant activities. Removal actions and interim remedial actions are conducted, where appropriate, to address threats to human health and the environment in advance of the final remedial action selection.

The remedial action work plans, site characterization studies, RI reports, and remedial design work plans have been prepared, using EPA guidelines for CERCLA RI/FSs and RCRA RFIs where appropriate. These documents were sent out in accordance with milestones specified in the negotiated IAG and the schedule defined in the RCRA permit. Public meetings were held during the year to advise the public of the restoration process being implemented to remediate the ORR and to address the public's concerns over the relative risk associated with the offsite contamination. Work completed or underway during FY 97 included:

- ORNL - Completion of the Molten Salt Reactor Experiment Deposit Removal Action Memorandum and Old Hydrofracture Tank Sludge Removal Action Memorandum.

- Y-12 Plant - Completion of the Chestnut Ridge OU 2 ROD and the Bear Creek Valley OU 2 ROD.

Progress in Conducting Remedial Actions

Final CERCLA remedial action will be initiated after RODs are signed. Removal and interim cleanup actions initiated or completed during FY 97 included:

ETTP (formerly K-25 Site): 1) Completed K-25 Cooling Tower Demolition Project, demolishing 34 inactive facilities; 2) completed small scale metals recycle program; 3) completed RCRA closure of K-1417/K-1419 drum storage yard and sludge fixation plant; and 4) removed large uranium deposits that were criticality safety concerns of the DNFSB.

ORNL: Completed grouting of buried waste trenches at Solid Waste Storage Area 4. Began operation of the reactive gas removal system at the molten salt reactor experiment. Began removal of highly radioactive sludges from Gunite Tanks.

Y-12: Completed dam stabilization and wetlands enhancement at Y-12 Chestnut Ridge OU 2. Continued actions to reduce mercury levels found in plant effluents.

ORR Offsite: Completed field work at the Oak Ridge Tool & Engineering Site and the Western Sewage Digester Site. Released six thousand acres of the ORR for alternative future use. Continued field assessments of the Atomic City Auto Parts and David Witherspoon Sites.

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PANTEX PLANT

Amarillo, Potter and Randall Counties, Texas

Office: Albuquerque Operations Office

Size: 16,000 acres (25 square miles)

NPL Status: Placed on the NPL on May 31, 1994.

Mission: The facility was originally constructed in 1942 for the U.S. Army Ordnance Corps for loading conventional ammunition shells and bombs. In 1951, the Atomic Energy Commission (DOE's predecessor) took over the main plant and surrounding 10,000 acres for use as a nuclear weapons production facility. The Pantex Plant's current functions include the fabrication of chemical high explosives; high-explosives development work in support of the design laboratories; and nuclear weapons assembly, disassembly, testing, quality assurance, repair, retirement, and disposal.

Overview of Environmental Conditions: Potential for soil and groundwater contamination from formulation and development of high explosives; machining and plating operations; weapon component tests (non-nuclear); facility and vehicle operations and maintenance activities; and historical waste management and disposal practices. High-explosive and solvent contamination may also have resulted from operations during World War II.

CERCLA/RCRA Remediation Funding in FY 97: $19,700,000

Progress in Reaching Interagency Agreement

Remediation of environmental conditions is currently being addressed under authority of an RCRA Part B Permit, issued June 6, 1991 by the Texas Natural Resources Conservation Commission (TNRCC), formerly the Texas Water Commission. The EPA may be willing to use the RCRA permit instead of the IAG to regulate corrective actions at the site. Consequently, NPL deletion activities are in progress, and if successful, an IAG will no longer be necessary.

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for environmental restoration at the Pantex Plant total $24.5 million of appropriated funding for FY 98 and $12.6 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

No formal public comment occurred in FY 97 concerning the IAG. Pantex Plant continued its aggressive community relations program during FY 97 by holding monthly public information meetings and participating in the monthly Pantex Plant Citizens Advisory Board. Supporting efforts include issuance of press releases for major milestones, dissemination of fact sheets and brochures, and maintenance of public reading rooms.

Progress in Conducting Remedial Investigations/Feasibility Studies

Four assessments were completed in FY 97. This completes all assessments needed to determine required remedial actions at the Pantex Plant.

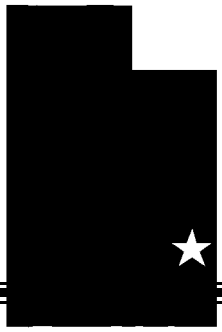
Progress in Conducting Remedial Actions

The Pantex environmental restoration program closed 19 release sites in FY 97:

- Interim Corrective Measures were completed for 10 High Explosive/Radioactive Waste (HE/RAD) sites and three burning ground sites.
- Voluntary Administrative covers were completed for four landfill sites.
- No Further Action documentation was completed for one landfill site and one firing site.

In FY 97, remedial actions continued at Firing Site 5, Former Cooling Tower Site, HE/RAD Sites, and Ditches and Playas; Fate and Transport Study was completed; and Phase III Groundwater Treatability Study was implemented.

In FY 98, accelerated cleanups have been completed at Firing Site 5 and HE/RAD Sites. Also, the Groundwater Treatability Study was completed. Offsite perched aquifer investigation and monitoring well installation per TNRCC (state) requirements were completed and subsequent findings required additional production and monitoring wells. Discussions on deletion of Pantex from the NPL will continue.



MONTICELLO MILL SITE AND MONTICELLO VICINITY PROPERTIES

Monticello, San Juan County, Utah

Office: Grand Junction Office

Size: 110 acres (0.2 square mile) (Mill Site), plus 420 Vicinity Properties in the town of Monticello and 29 peripheral properties.

NPL Status: Facility comprised of two individual NPL sites: the Mill Site was placed on the NPL on November 21, 1989 and the Vicinity Properties on June 10, 1986.

Mission: Former uranium milling operation.

Overview of Environmental Conditions: Soil, groundwater, and surface water contamination from radioactive mill tailings, process equipment, and milling operations. Approximately 2.6 million cubic yards of contaminated material.

CERCLA/RCRA Remediation Funding in FY 97: $26,400,000

Progress in Reaching Interagency Agreement

DOE, EPA Region VIII, and the State of Utah negotiated and signed an FFA for the Monticello Mill Site and the Vicinity Properties. This FFA, which covered both NPL sites, was executed on December 22, 1988. The March 1995 Site Management Plan establishes the overall plan for remedial actions at Monticello. Enforceable milestones were established for the submission of primary documents as defined by the FFA.

Specific Cost Estimates and Budgetary Proposals Involved in the Federal Facility Agreement

Funds budgeted for environmental restoration under the FFA at the Monticello Mill Site and Vicinity Properties total $23.6 million of appropriated funding for FY 98 and $34.2 million for FY 99 according to the request in the President's Budget.

Public Comments Regarding Federal Facility Agreement

No new public comments regarding the FFA were received in FY 98.

Progress in Conducting Remedial Investigations/Feasibility Studies

Mill Site: The RI/FS addressing mill tailings and peripheral properties was completed in 1990. An additional RI/FS addressing groundwater and surface water contamination and contamination of five peripheral properties (OU 3) commenced in 1992. A Phase I RI/FS Work Plan was approved by EPA and the State of Utah, and field activities were initiated. The OU 3 baseline surface water and groundwater

sampling for the OU 3 RI was completed and a Baseline Data Summary Report prepared in February 1994. The Draft Final OU 3 RI/FS Work Plan, Field Sampling Plan, and Quality Assurance Project Plan were submitted for regulatory review in September 1995. Soil, sediment, surface water, groundwater, and biota sampling in support of the RI was completed. It was concluded in September 1997 that an interim remedial action for surface and groundwater with a non-time critical removal action for surface and groundwater with a non-time critical removal action for soils and sediment along Montezuma Creek should be implemented. The final FS is now scheduled in FY 2004 after additional monitoring subsequent to the mill site remediation.

Vicinity Properties: The RI/FS for the Vicinity Properties was completed in calendar year 1989.

Progress in Conducting Remedial Actions

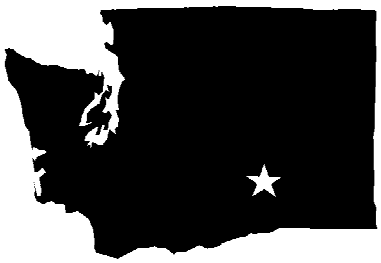
Mill Site: The ROD for OUs 1 and 2 of the Mill Site was signed by the EPA in August 1990 and by DOE in September 1990; construction of site preparation facilities at OU 1 is complete. These facilities include the installation of surface water drainage control structures, including the runoff retention pond for the 78-acre site and contiguous peripheral properties. Repository excavation and liner installation at OU 1 were completed in early FY 97. Offsite drainage control ditches and the liner for Pond 3 were completed. To meet Utah discharge standards, the wastewater treatment plant was modified, tested, and operated to treat contaminated runoff. The repository excavation and liner installation were completed and tailings haul initiated in FY 97. 1.8 million cubic yards of tailings material were placed in the onsite reporitory through the end of FY 98. The scope of the OU 3 interim remedial action and non-time critical removal action for soils and sediments along Montezuma Creek was agreed upon by the regulators in November 1995. During FY 96 at OU 2, remedial action was started and completed at five properties.

Vicinity Properties: The ROD covering the Vicinity Properties was signed by the EPA in September 1989 and by DOE in December 1989. Since the last Annual Report to Congress, remedial actions have been completed on 414 of the project total of 470. Nineteen Vicinity Properties were remediated in FY 97.

Enforcement Activities

The DOE purchased emergency response equipment for San Juan County as a result of an independent assessment performed by the Texas Department of Health of DOE's impacts on the County's emergency response capabilities.

The DOE was fined $40,000 for a 1995 release of contaminated water from retention ponds. Funding for payment has been requested.



HANFORD SITE

Richland, Benton County, Washington

Office: Richland Operations Office

Size: 359,680 acres (562 square miles)

NPL Status: Four areas were placed on the NPL on October 4, 1989 (Areas 100, 200, 300, and 1100). Area 1100 was deleted from the NPL on September 30, 1996.

Mission: Chosen in 1943 for the Manhattan Project, the Hanford Site was used to produce plutonium for the world's first nuclear weapons. Today the focus of activities is site cleanup and environmental restoration; scientific and environmental research; development and application of radioactive waste and hazardous waste management technology; and design, construction, and operation of major energy-related test and development facilities.

Overview of Environmental Conditions: Onsite soil, groundwater, vadose zone and sediment contamination by various hazardous and radioactive substances. Various levels of radionuclides are also routinely identified in the Columbia River.

CERCLA/RCRA Remediation Funding in FY 97: $98,384,000

Progress in Reaching Interagency Agreement

DOE, EPA Region X, and the State of Washington negotiated and signed the Hanford Federal Facility Agreement/Consent Order (hereafter referred to as the Tri-Party Agreement) on May 15, 1989. This Tri-Party Agreement provides the framework for effective investigation of waste sites and subsequent remediation of hazardous and mixed waste contamination at Hanford. An annual update is prepared to address additional problems and to incorporate schedules agreed to in approved RI/FS Work Plans or other work scopes agreed to by the three parties.

The last annual update, entitled *Fifth and Sixth Amendment*, was signed in February 1996. This amendment primarily addresses ways of becoming more efficient and cost-effective within the framework of the Tri-Party Agreement. The changes fall into these broad categories:

- Single Regulator Approach (eliminating support agency staffing);
- Providing unit managers and their line managers with increased responsibility and authority regarding their projects; and
- Streamlining the dispute resolution/decision-making process.

For detailed information regarding the Tri-Party Agreement, see the FY 91 CERCLA 120 *Fifth Annual Report to Congress.*

Specific Cost Estimates and Budgetary Proposals Involved in Each Interagency Agreement

Funds budgeted for CERCLA activities in the Environmental Restoration Program under the Tri-Party Agreement total $98,756,000 of appropriated funding for FY 98 and $116,764,000 for FY 99 according to the request in the President's Budget.

Public Comments Regarding Interagency Agreements

Amendments and updates to the Tri-Party Agreement are subject to public comment periods prior to signature by the three parties. The 5th and 6th amendments were signed by the three parties in February 1996. For detailed information regarding the Tri-Party Agreement comment process, see the FY 91 CERCLA 120 *Fifth Annual Report to Congress*. All future changes to the Tri-Party Agreement will also be subject to public review and comment.

Progress in Conducting Remedial Investigations/Feasibility Studies

The Hanford Site includes a broad range of waste units that contain either radioactive, hazardous, mixed (both radioactive and hazardous), or nonradioactive/nonhazardous solid waste. Certain hazardous substances and hazardous wastes remain on and under the Hanford Site and have been detected in groundwater and surface water. An estimated five billion cubic yards of solid and dilute liquid waste, including hazardous substances, mixed waste, and hazardous waste and constituents, have been disposed of into the soil column at the Hanford Site.

All remediation work at the Hanford Site was originally included within four NPL sites (the 100, 200, 300, and 1100 Areas), 74 source OUs containing 1,249 identified hazardous waste sites (985 past-practice sites), and four groundwater OUs. After cleanup was completed, the 1100 Area was deleted from the NPL in September 1996. OUs were prioritized by the EPA and the State of Washington in 1989 for investigation based on an initial assessment of environmental risk.

The following RI/FS activities were accomplished during FY 97:

100 Area

- A CERCLA ROD was amended for the 100 Area liquid waste sites that were not addressed by documentation for the 100-BC-1, 100-BC-2, 100-BC-5, 100-DR-2, 100-FR-1, 100-KR-1, 100-KR-4, and 100-HR-2 OUs; and was approved in April 1997. Remedial design was in various stages of completion by September 30, 1997.

- A Limited Field Investigation for 1301-N and 1325-N Operable Units was submitted in December 1996.

200 Area

- The Environmental Restoration Disposal Facility began operations on July 1, 1996 under a CERCLA ROD that was issued in January 1995; ROD amendment for expansion was signed on September 30, 1997.

- Declaration of the ROD for the selected interim remedial measure for 200-UP-1 Operable Unit (groundwater) was signed on February 24, 1997.

300 Area

- A CERCLA PP for the 300-FF-1 and 300-FF-5 OUs was submitted.

1100 Area

- The 1100 Area was deleted from the NPL on September 30, 1996.

Progress in Conducting Remedial Actions

Under the Hanford Site Past Practice Strategy, sites that pose a threat to human health and the environment are identified. These sites are considered for Expedited Response Actions (ERAs).

The following ERA activities were accomplished in FY 97:

100 Area

- The N-Springs ERA is located near the N-Reactor. Past liquid effluent discharges have led to strontium-90 radionuclide releases along the southern bank of the Columbia River, known as N-Springs. In August 1995 operations of a groundwater treatment system at N-Springs began.

- Excavation of the 116-C-1 trench and 116-B-4 French Drain continued during FY 97.

200 Area

- The 200 West Area carbon tetrachloride treatment site (located in the 200-ZP-2 OU) vapor extraction continues. The system is now automated. Through September 1997, more than 77 million kilograms of carbon tetrachloride have been removed. The system was shut down from December 1996 to July 1997 to conduct a rebound study.

300 Area and 1100 Area

There were no ERAs done during FY 97 in either the 300 or 1100 Areas.

Other RA accomplishments include:

100 Area

- 100 DR remediation was initiated in November 1996. Completed removal of three waste sites by September 1997.

- Excavation of contaminated soils continued in FY 97.

- 125 million liters of groundwater have been pumped and treated at the 100-HR-3 OU.

- Removed an estimated 440 thousand tons of contaminated soil from 100 Area waste sites in FY 97.

200 Area

- Pump and treat is continuing as remediation in the 200-ZP-1 and 200-UP-1 OUs; two hundred eighty million liters and 180 million liters respectively were treated through FY 97 at these OUs.

300 Area

- Remedial Action for 300-FF-1 Operable Unit began July 1997; thirty thousand tons of soil were removed by September 30, 1997.

- Remediation began in FY 97; an estimated 30 thousand tons of contaminated soil were removed from 300 Area.

- Completed removal of four waste sites by September 1997.

1100 Area

- Cleanup of the 1100 Area was completed in FY 95. The 1100 Area cleanup consisted of excavation of PCB-contaminated soil from the Horn Rapids Landfill and Ephemeral Pool and construction of a cap. The EPA deleted the 1100 Area from the NPL on September 30, 1996.

ERDF

- Disposed of 470 thousand tons of contaminated soil from CERCLA projects (440 thousand tons from 100 Areas and 30 thousand tons from 300 Area) and disposed of an estimated 15 thousand tons from non-CERCLA activities.